

Remarks

Claims 1-26, 35, 36, 45-48, and 50-89 are pending in the application. Claims 6, 19, 35, 36, 45-48, 50-69, 77, and 79-89 were withdrawn from consideration as being drawn to a non-elected invention. Claims 20/7, 20/12, 20/17, 21-26, were withdrawn as being directed to a non-elected species, there being no allowable generic or linking claim at the time of the rejection. Claims 1-5, 20/2, 70-76, and 78, are the elected invention and elected species, and were the subject of the office action. Claims 4, 6-19, 27-69, 77, 79, 80, and 82-89 have been canceled. Claim 1 has been amended. No new matter has been added by virtue of this amendment. Reconsideration of the application as amended is requested.

Mislabeled Claims

In amendment B, dated November 7, 2004 claims 21, 78, and 81 were mislabeled. Claims 21 and 81 should have been labeled "withdrawn." Claim 78 should have been labeled "currently amended." Applicant requests that the amendment to claim 78 be entered or asks for instruction as to how to get this amendment entered.

Docket Number

Please change the docket number for this case from B6603-0003 to 116-001b.

Priority

Attached is a petition under rule 1.78 to claim priority of the parent case. Applicant has amended the specification to claim priority of the parent case which depends from the earlier filed provisional application.

Specification

The specification has been amended to claim priority of the parent case and a petition under rule 1.78 is attached.

Claim Rejections--35 U.S.C. § 102

The Examiner rejects claims 1-3, 5, 20/2, 70-76, 78, 90, and 91 under 35 U.S.C. § 102(b), as being anticipated by Parker. Applicant has perfected a claim for domestic

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priority with the attached petition under rule 1.78. Thus, the rejection of claim 1, and claims dependent thereon, under 35 U.S.C. § 102(b), as being anticipated by Parker has been traversed.

The Examiner rejects claims 1, 2, and 75 under 35 U.S.C. § 102(b), as being anticipated by Greenaway.

Claim 1 provides:

- e) illuminating said object mask with said illumination beam, wherein **said illumination beam directed along said axis causes said object mask to allow undiffracted reference wavefronts to pass therethrough, wherein said object mask does not shadow said central region of said holographic recording medium from said undiffracted reference wavefronts**, and wherein said illumination beam directed along said axis causes said one or more substantially transparent elements to create object wavefronts which interact with said undiffracted reference wavefronts to create an interference pattern; and
- f) recording said interference pattern in **at least said central region** of said holographic recording medium.

First, Greenaway does not teach or suggest "illuminating said object mask with said illumination beam, wherein **said illumination beam directed along said axis causes said object mask to allow undiffracted reference wavefronts to pass therethrough.**" Greenaway's object mask limits where reference waves can go. No reference waves pass through the object mask of Greenaway. That is why Greenaway uses beam splitter 102, 402 in FIGS. 1 and 4, large lens 206, 412 in FIGS. 2 and FIG. 4 to provide "active area (annulus)" on "holgram plate" 214 in FIG. 2 and in FIG. 4, large parabolic mirror 500 to provide a similar annular active area in FIG. 5, and wide annular prism 600 to provide reference beam in an annular region around object transparency 610 in FIG. 6, and annular active region 708, 802 in FIGS. 7, and 8.

Second, Greenaway does not teach or suggest "**said object mask does not shadow said central region of said holographic recording medium from said undiffracted reference wavefronts.**" Greenaway's objective transparency 218 shadows the central region of the holographic recording medium 214 from the undiffracted reference wavefronts, as shown in FIG. 2. Greenaway's undiffracted reference wavefronts only penetrate to the recording medium 214 in the active area (annulus) around the central region.

Third, Greenaway does not teach or suggest "recording said interference pattern in

at least said central region of said holographic recording medium." Greenaway only records an interference pattern in the annular region of the holographic recording medium surrounding the central region.

Thus, the rejection of claim 1, and claims dependent thereon, under 35 U.S.C. § 102(b), as being anticipated by Greenaway has been traversed.

With regard to claim 2, the Examiner states that "one of the transparent elements is a diffuser, which fairly constitutes a 'scattering element.'" However, applicant would respectfully ask the Examiner to consider that Greenaway's diffuser shadows the central region of the holographic recording medium from the undiffracted reference wavefront. Thus, claim 1, and claims dependent thereon, including claim 2 are clearly distinguished from the teachings and suggestions of Greenaway.

With regard to claim 75, the Examiner states that "the interference pattern is recorded in a continuous annular 'active area' of the hologram plate (214) to form a 'continuous diffracting region.'" Claim 1, as amended provides for "recording said interference pattern in at least said central region of said holographic recording medium." As the Examiner recognizes, Greenaway's interference pattern is exclusively in an annular active area and not in the central region of that annular active area. Thus, claim 1, and claims dependent thereon, including claim 75 are clearly distinguished from the teachings and suggestions of Greenaway.

Claim Rejections—35 U.S.C. § 103

The Examiner rejects claims 20/2, 5, 73 and 74 under 35 U.S.C. § 103(a), as being unpatentable over Greenaway. The Examiner states that "Greenaway does not expressly identify the one or more transparent elements in the embodiment of Figure 2 as phase-altering elements which are indentations in the object mask (claim 20/2) and does not disclose an array of transparent elements (claim 5). Rather Greenaway discloses a transparent element as being a diffuser." As to claims 73 and 74 the Examiner states that "Greenaway does not disclose an optical density between 0.1 and 5.0 (claim 73) and does not disclose a beam intensity ratio between 0.1:1–100:1 (claim 74)." The Examiner then notes that "Nonetheless, Greenaway discloses the substantially planar regions of annular attenuator (210) as comprising a semi-transparent metal layer. It will be appreciated that, in order to attenuate the beam, such a layer inherently has some optical density. Further Greenaway teaches that the purpose of the annular attenuator is to provide the 'optimum ratio' between the reference and object beam intensities. Thus, in practicing the invention of Greenaway, it appears that one of ordinary skill would have arrived at an optical density (of the attenuator) between 0.1 and 5.0 through only routine experimentation in the process of providing an optimum attenuation that provides the optimum beam intensity ratio, as suggested by Greenaway. Further, barring any unexpectedly improved

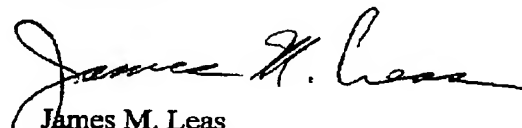
result arising from the particular selection of a beam intensity ratio laying between 0.1:1 - 100:1, it appears that one of ordinary skill would have arrived at such a ratio, through only routine experimentation in discovering the 'optimum' ratio discussed by Greenaway."

However, as the Examiner recognizes, Greenaway's annular attenuator is annular and not along the axis. And Greenaway's interference pattern is exclusively in an annular active area and not in the central region of that annular active area. Thus, claim 1, and claims dependent thereon, including claims 73 and 74 are clearly distinguished from the teachings and suggestions of Greenaway.

The Examiner rejects claim 91 under 35 U.S.C. § 103(a), as being unpatentable over Greenaway in view of Graham. The Examiner states that Greenaway does not disclose the semi-transparent layer as particularly being chrome," and that Graham teaches that chrome was well-known for use in a semi-transparent layer that provides optical attenuation. However, neither Greenaway nor Graham teach the limits of claim 1, as amended, as described herein above, and therefore claim 91 and other claims dependent on claim 1 should be allowable.

It is believed that the claims are in condition for allowance. Therefore, applicant respectfully requests favorable reconsideration. If there are any questions please call applicant's attorney at 802 864-1575.

Respectfully submitted,
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